

1. (AMENDED) A burn resistant and high tensile strength alloy, comprising:

about 55 to about 75 weight percent nickel;

about 12 to about 17 weight percent cobalt;

at most about 12 weight percent chromium;

about 1 to about 4 weight percent aluminum; and

about 1 to about 4 weight percent titanium.

4. (AMENDED) The alloy of claim 1, wherein the chromium content is about 1 to about 11.5 weight percent.

7. (AMENDED) The alloy of claim 1, further comprising silicon.

11. (AMENDED) A nickel alloy, comprising:

at least about 72 weight percent nickel;

about 13.5 to about 16.5 weight percent cobalt;

about 6 to about 15 weight percent chromium;

about 1 to about 4 weight percent aluminum; and

about 1 to about 4 weight percent titanium.

14. (AMENDED) The nickel-based alloy of claim 11, further comprising silicon.

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18. (AMENDED) A nickel-based metal alloy comprising:

at least 50 weight percent nickel;

less than about 12 weight percent chromium;

a threshold pressure at least about 4,000 pounds per square inch; and

a tensile strength at least about 160,000 pounds per square inch.

20. (AMENDED) The nickel-based metal alloy of claim 19, further comprising:

manganese, carbon, boron, zirconium, or silicon.

Please add the following new claims.

23. (NEW) A component for a rocket engine subject to high stress environments including a nickel alloy, comprising:

at least about 60 weight percent nickel;

about 1 to 4 weight percent aluminum;

about 1 to 4 weight percent titanium;

a threshold pressure of at least about 4,000 pounds per square inch; and

a tensile strength of at least about 160,000 pounds per square inch;

wherein said threshold pressure and said tensile strength produce a rocket engine able to withstand a plurality of uses.

24. (NEW) The component of the rocket engine of claim 23, further comprising cobalt, chromium, zirconium, boron, or combinations thereof.

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